

**Work Order ID 59254**

Page 1

Friday, May 28, 2010 9:10:09 AM

Item ID: D2010-101

Accept



Setup

Start



Revision ID:

Stop



Item Name: Mirror Bracket

Start Date: 5/28/2010 Start Qty: 6.00



Cust Item ID:

Required Date: 6/4/2010 Req'd Qty: 6.00



Customer:

Reference:

Run

Start



Approvals:

Process Plan:

Date:

10-5-28

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2010

Rev D

100



FLOW WATER JET

0.00

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D2010-101

Dwg Rev: BProg Rev: D

2-Deburr if necessary

2024 .063

B10-6-1

(6)

110



QC2- Inspect parts off machine FAI/FAIB

0.00

QC

Memo

0.00

Quality Control

B10-6-1

120



QC8- Inspect parts - second check

0.00

QC

Memo

0.00

Quality Control

8106661

(86)

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run

Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130



Small Fab

Small Fab

0.00

Small Fab

Memo  
Debur

0.00

140



Brake NC

NC BRAKE

0.00

Brake NC

Memo

Form as per Dwg D2010

0.00

145

Chemical CONV.

147

QC3 - 8/10/06/30

0.00

150



Small Fab

Small Fab

0.00

Small Fab

Memo

Install fasteners per Dwg D2010

SB 10/06/29

1 BR 10-6-29

(6)

(6)

8/30/06/30 (6)

W/O:		WORK ORDER CHANGES					
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Page 3

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Item Name: Mirror Bracket

Stop



Start Date: 5/28/2010 Start Qty: 6.00



Cust Item ID:

Required Date: 6/4/2010 Req'd Qty: 6.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run

Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

5/26/10

Quality Control

6

170

Black Sandtex(Ref:4.3.5.7) per QSI005 4.3

0.00



Powdercoat

M112588

Memo

0.00

Powder Coating

START TIME 10:15  
OVENTEMPERATURE 320°  
FINISH TIME 10:45

6 BR 10-7-5.

180

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

10/07/05

6

W/O:		WORK ORDER CHANGES						
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 59254**

Friday, May 28, 2010 9:10:09 AM



Page 4

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Run

Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

Identify as per dwg & Stock Location: 220

0.00



Packaging

Memo

0.00

Packaging

200

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

PC/1/7/5 (6)

10-07-06

MF

10-7-5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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**NOTE:** Date & initial all entries



# Picklist Print

Friday, May 28, 2010 9:10:13 AM

Page 1

Work Order ID: 59254

Parent Item: D2010-101

Parent Item Name: Mirror Bracket

Comments:

IPP: ☐E☐02.06.25☐Added Rev. C1☐ KJ☐/RF  
 IPP Rev:F 07-08-015 Now on WaterJet Verified By:EC  
 IPP Rev:G 08-05-27 as per ECN1195P DD verified by:EC  
 IPP Rev:H 08-06-20 rev.D as per dwg DD verified by:EC

Start Date: 5/28/2010

Start Qty: 6.00

Required Date: 6/4/2010

Required Qty: 6.00

M2024T3S.063

Purchased

No

150

sf

153.4000

0.3472

2.192842



2024-T3 .063 sheet

## Location

## Loc Qty

## Loc Code

MAT22

153.4

111787

2

113866

19.2

114351

132.2

FE-032-EF

Purchased

No

100

Each

50.0000

4



Inserts

## Location

## Loc Qty

## Loc Code

ST285

50

110836

50

1310-6-1

6

114 351

24

5/30/06/30

24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

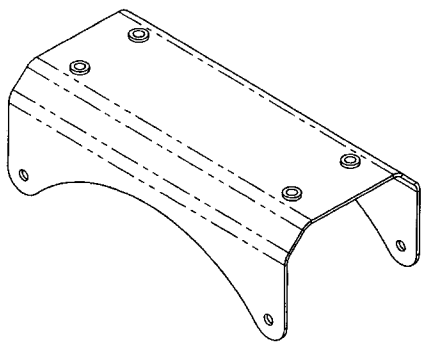
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

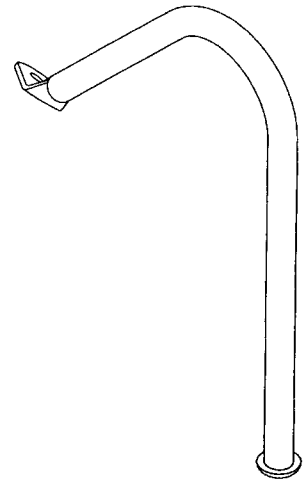
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D  
C  
B  
A

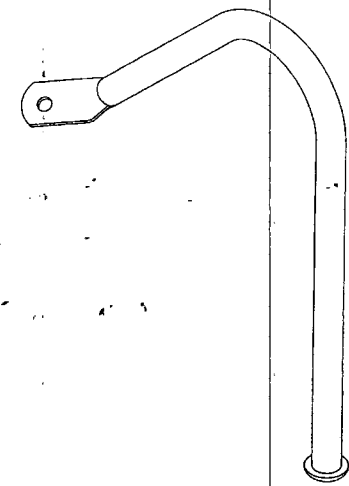
D  
C  
B  
A



**D2010-101 MIRROR BRACKET**



**D2010-103 ARM**



**D2010-104 ARM**

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 59254

*B810-5-2F*

**RELEASED**  
*2008/11/18*

D	REDRAWN IN SOLIDWORKS; ADD D2010-1F FLAT PATTERN FOR D2010-101 (ZN B7-2); Ø 0.500 X 0.049 WALL WAS Ø 0.500 X 0.035 WALL (ZN B1-3, B1-4); REASON; TUBING CRACKING DURING SERVICE	PH	08.06.10
C	1.93 WAS 2.00; 0.50 WAS 0.62	KE	97.10.31
B	7.90 WAS 10.90	JB	92.03.17
A	NEW ISSUE	JB	90.12.15
REV.	DESCRIPTION	BY	DATE
DESIGN	JB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>D2010</b> TITLE <b>MIRROR BRACKET</b> SCALE <b>NTS</b> REV. D SHEET 1 OF 4 COPYRIGHT © 1990 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMERCIALIZED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	JB		
CHECKED	JB		
MFG. APPR.	JB		
APPROVED	JB		
DE APPR.	JB		
DATE	08.06.10		

8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

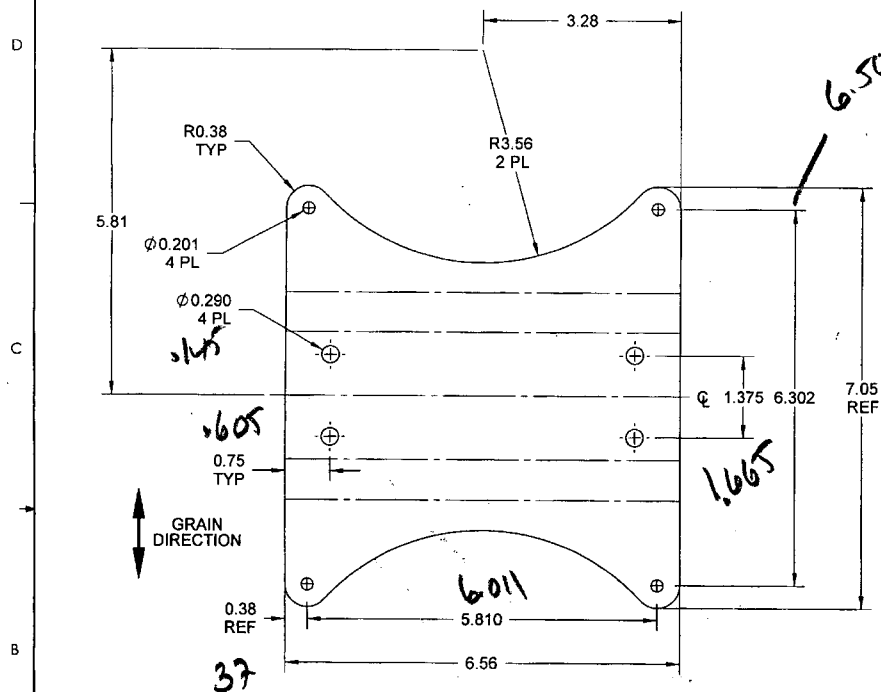
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

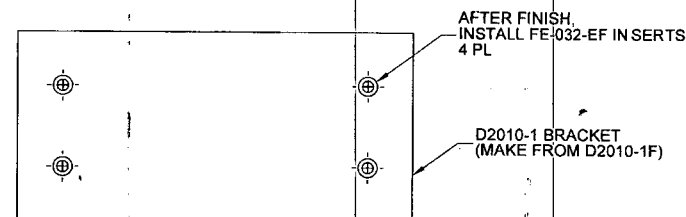
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

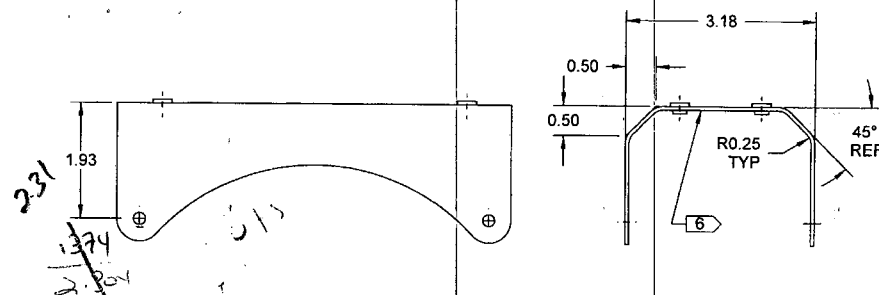
QTY -101	P/N	DESCRIPTION
X	D2010-101	MIRROR BRACKET
1	D2010-1	BRACKET
4	FE-032-EF	INSERT



**D2010-1F FLAT PATTERN**



**D2010-101 MIRROR BRACKET**



**NOTES:**

- 1) MATERIAL: D2010-1F: 2024-T3 ALUMINUM SHEET, 0.063 THICK PER AMS-QQ-A-250/4 OR AMS 4037 (REF DART SPEC M2024T3S.063)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT, BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D2010-101" USING WHITE FINE POINT PERMANENT INK MARKER OR LABEL
- 7) WEIGHT: 0.23 lbs

**RELEASED**  
08-06-19/10

DESIGN	JB	<b>DART AEROSPACE LTD</b>	
DRAWN	PA	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PA	DRAWING NO.	REV. D
MFG. APPR.	PA	D2010	SHEET 2 OF 4
APPROVED	PA	TITLE	SCALE
DE APPR.	PA	MIRROR BRACKET	NTS
DATE	08.06.10	COPYRIGHT © 1980 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

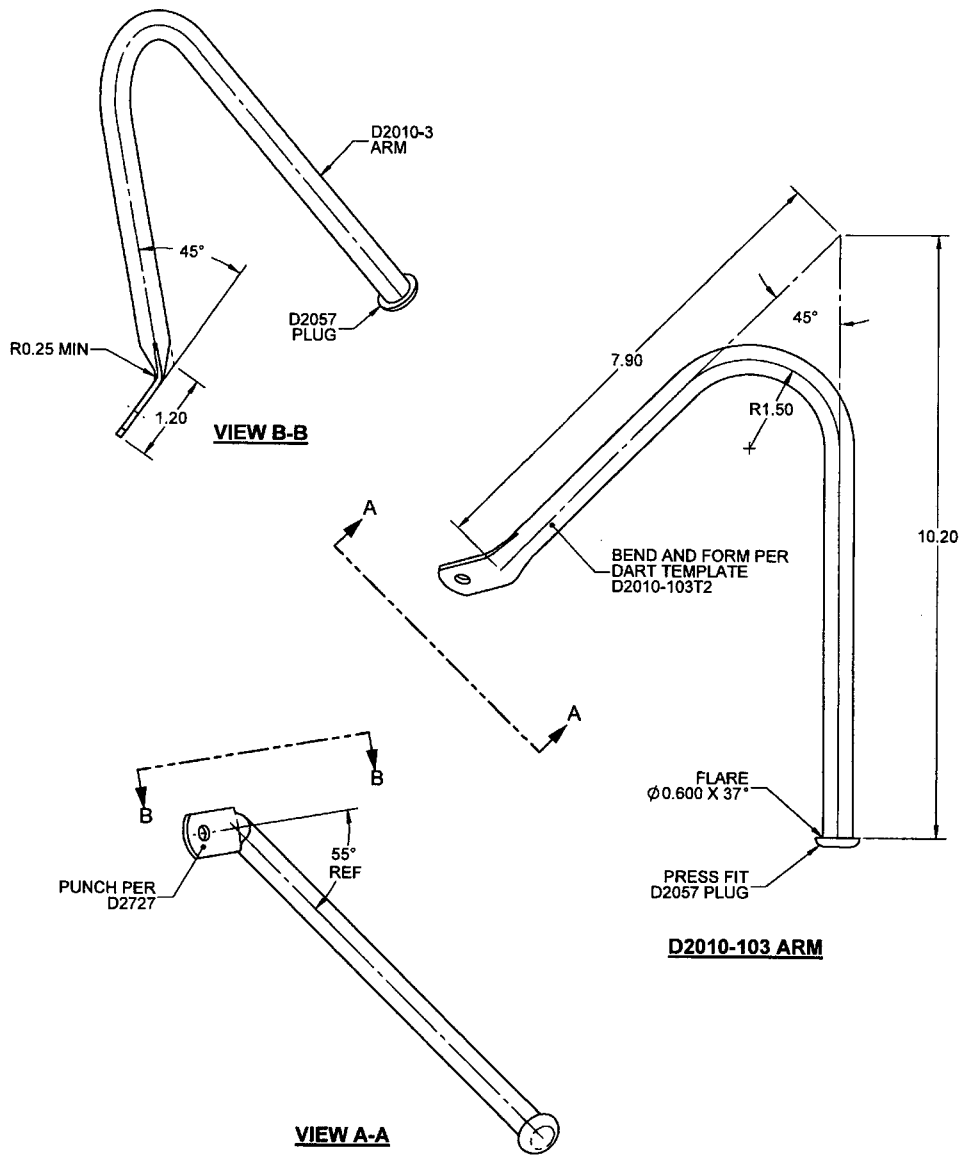
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries



8 7 6 5 4 3 2 1







QTY	P/N	DESCRIPTION
X	D2010-103	ARM
1	D2010-3	ARM
1	D2057	PLUG

W/L 59254

RELEASED  
02-06-1990

- NOTES:
- 1) MATERIAL: D2010-3: AISI 304/316 SS SEAMLESS ROUND TUBING,  $\phi 0.500 \times 0.049$  WALL (REF DART SPEC M304TR0.500W.049)  $\Delta$
  - 2) FINISH: POWDER COAT BLACK SANDEX (4.3.5.7) PER DART QSI 005 4.3
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D2010-103" USING WHITE FINE POINT PERMANENT INK MARKER
  - 7) WEIGHT: 0.34 lbs

DESIGN	JB	DART AEROSPACE LTD	
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CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D2010	SHEET 3 OF 4
APPROVED		TITLE	SCALE
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8 7 6 5 4 3 2 1

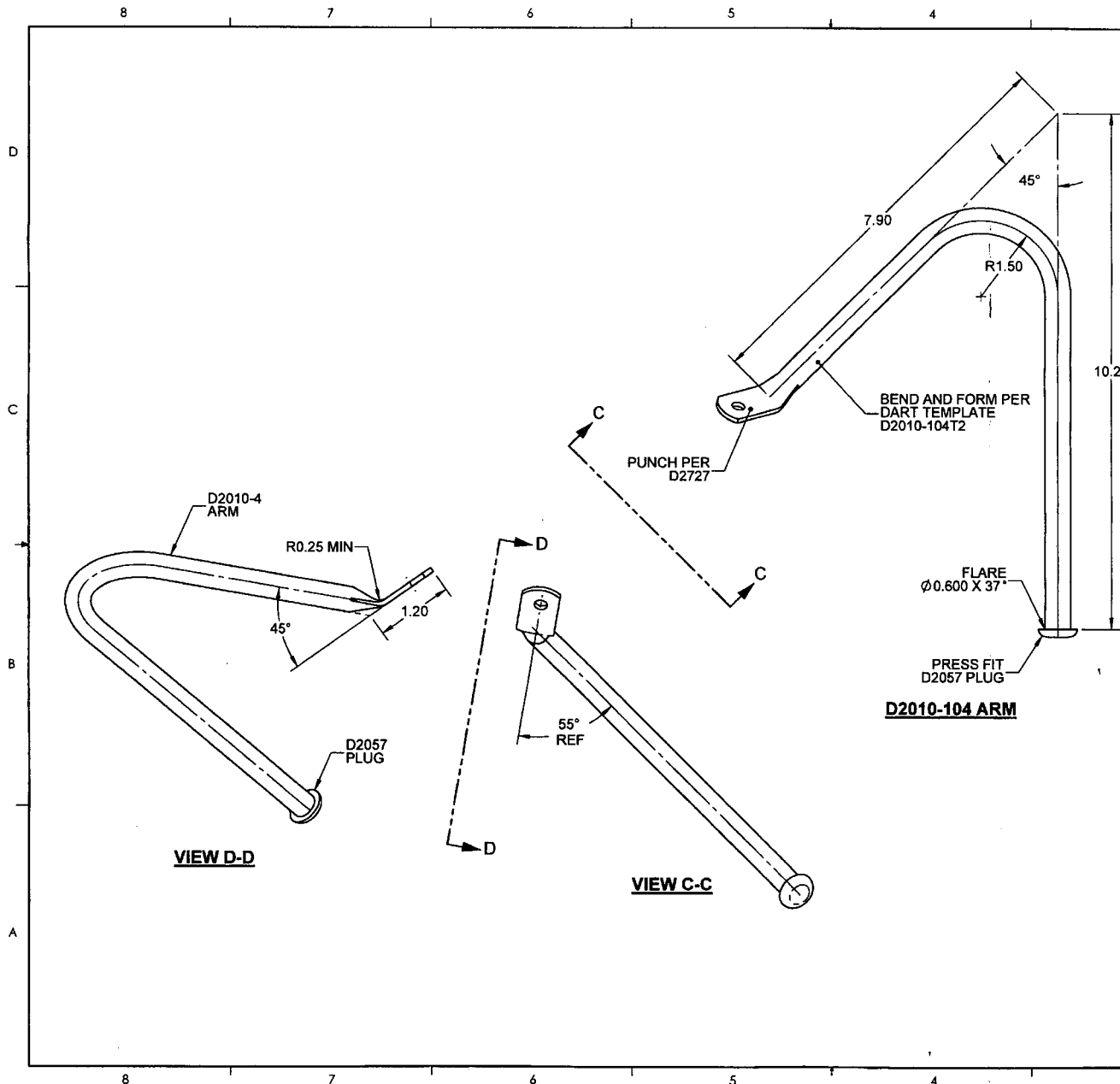
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**NOTE:** Date & initial all entries



QTY -104	P/N	DESCRIPTION
X	D2010-104	ARM
1	D2010-4	ARM
1	D2057	PLUG

- NOTES:
- 1) MATERIAL: D2010-4: AISI 304/316 SS SEAMLESS ROUND TUBING,  $\phi 0.500 \times 0.049$  WALL (REF DART SPEC M304TR0.500W.049)  $\Delta$
  - 2) FINISH: POWDER COAT BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D2010-104" USING WHITE FINE POINT PERMANENT INK MARKER
  - 7) WEIGHT: 0.34 lbs

DESIGN	JB	DART AEROSPACE LTD
DRAWN	JB	HAWKESBURY, ONTARIO, CANADA
CHECKED	PH	DRAWING NO. D2010
MFG. APPR.	PH	REV. D SHEET 4 OF 4
APPROVED	PH	TITLE MIRROR BRACKET
DE APPR.	PH	SCALE NTS
DATE	08.06.10	COPYRIGHT © 1990 BY DART AEROSPACE LTD

w/659254

RELEASED  
08.06.10

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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